

IN THE CLAIMS:

Please amend the claims as follows.

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1. (Currently Amended) A front-end processing system for a processor, comprising:
a UOP cache and an instruction cache, each having inputs coupled to a common addressing input, the UOP cache having an output for a hit/miss indicator,
an instruction processing system in communication with the instruction cache, having an enabling power control input coupled to the hit/miss output of the UOP cache.
 2. (Currently Amended) The front-end processing system of claim 1, wherein the instruction cache comprises a cache lookup unit and a cache fetch unit, the cache fetch unit having an enabling power control input coupled to the hit/miss output of the UOP cache.
 3. (Currently Amended) The front-end processing system of claim 1, wherein the instruction processing system comprises an instruction synchronizer and an instruction decoder coupled to each other the power control input.
 4. (Currently Amended) The front-end processing system of claim 1, wherein the UOP cache comprises a cache lookup unit and a cache fetch unit, the cache lookup unit ~~coupled to~~ generate the hit/miss output.
 5. (Original) The front-end processing system of claim 4, wherein the UOP cache further comprises a delay element provided between the cache lookup unit and the cache fetch unit.
 6. (Original) The front-end processing system of claim 5, wherein the delay element is associated with a delay corresponding to a processing time of the instruction processing system.
 7. (Currently Amended) A cache comprising:
a cache lookup unit,
a delay element having an input coupled to an output of the cache lookup unit, and

a data fetch unit having a power control input coupled to an output of the delay element.

8. (Original) The cache of claim 7, wherein the cache is populated by a plurality of cache entries and wherein the cache lookup unit comprises tag fields of the cache entries and a comparator coupled to the tag fields.

9. (Currently Amended) The cache of claim 8, wherein the cache is populated by a plurality of cache ~~entries~~ ways and wherein the cache lookup unit comprises a tag array for each fields of the cache ways entries and a comparator coupled to each of the tag array fields.

10. (Currently Amended) A front-end processing system for a processor, comprising:
a UOP cache and an instruction cache, each having inputs coupled to a common addressing input, wherein the UOP cache includes an output for a hit/miss indicator,
wherein the instruction cache includes a cache lookup unit and a data fetch unit, the hit/miss indicator to ~~selectively disable~~ unpower the data fetch unit selectively.

11. (Currently Amended) The front-end system of claim 10, further comprising an instruction processing system in communication with the instruction cache, the hit/miss indicator to ~~selectively disable~~ unpower the instruction processing system selectively.

12. (Currently Amended) The front-end processing system of claim 11, wherein the instruction processing system comprises an instruction synchronizer and an instruction decoder coupled to ~~each other~~ the hit/miss indicator.

13. (Original) The front-end processing system of claim 10, wherein the UOP cache comprises a cache lookup unit and a cache fetch unit, the cache lookup unit coupled to the hit/miss indicator.

14. (Currently Amended) The front-end processing system of claim 13, wherein the UOP cache further comprises a delay element provided between the cache lookup unit and the cache fetch unit, the delay element to be controlled by the hit/miss indicator.

15. (Currently Amended) The front-end processing system of claim 14, wherein the delay element is ~~associated with~~characterized by a delay corresponding to a processing time of the instruction processing system.

16.-22. Canceled.

13, Please add the following new claims:

23. (New) The cache of claim 7, wherein the delay element is to delay operation of the data fetch unit to be synchronized to a timing scheme of an external data input device.

24. (New) The cache of claim 7, wherein the delay element is a multi-cycle delay element.

25. (New) The cache of claim 7, wherein:
the cache lookup unit is to generate a hit/miss indicator in response to an input address,
and
the delay element is to become opaque in response to a miss indicator.

26. (New) A cache system, comprising:
a first cache sub-system comprising the cache of claim 7, and
a second cache system characterized by a longer response time than the cache lookup unit and data fetch unit of the first cache sub-system,
wherein the delay element is characterized by a delay equal to a difference between the response time of the second cache sub-system and the response times of the cache lookup unit and data fetch unit.